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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/578,338

05/05/2006

Wolfgang Pfeiffer

10191/4578

6592

26646 7590 10/14/2009
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NEW YORK, NY 10004

EXAMINER

ARCE, MARLON ALEXANDER

ART UNIT

PAPER NUMBER

3611

MAIL DATE

DELIVERY MODE

10/14/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/578,338	Applicant(s) PFEIFFER ET AL.	
	Examiner MARLON A. ARCE	Art Unit 3611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-21, 28 and 29 is/are rejected.
- 7) ☒ Claim(s) 22-27 and 30-35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of the appeal brief filed on 5/5/06, PROSECUTION IS HEREBY REOPENED.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/LESLEY D MORRIS/
Supervisory Patent Examiner, Art Unit 3611.

2. A new set of rejections using some of the prior art previously presented follow.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hommel (US 6208923) in view of Shimizu (US 2002/0166716). Hommel discloses a steer by wire steering actuator comprising: two independently controlled electrical units (6a,6b) {{the electrical units are computers that are able to process information independently}}, two power supplies (7a,7b), one for each of the electrical units, a pair of relays (18a,18b); the electrical units are processing units and include a pair of output stage units (12a,12b). Hommel fails to mention a fuse connected between the power supply unit and the electrical units; however, Shimizu discloses a power steering apparatus with fuse connecting the power unit (BT) to the electrical unit (5). It would have been obvious for someone skilled in the art to know that in extensive electrical circuitry, a set of fuses are needed in order to be able to: stop a sudden jump in current and in order to protect highly sensible/expensive electrical systems (such as the electrical units). Regarding claim 15, the fuse is located in between the power unit (BT) and the electrical unit in Shimizu; it would be obvious to place the fuse in the same location in Hommel in order to have a fuse between the power unit and the sensitive electrical components on the electrical unit. Regarding claim 16, Shimizu further discloses a torque sensor (TS); it would have been obvious for someone skilled in the art to place a torque sensor in the steering device (1) of Hommel in order to give a torque reading to the processing unit, wherein said processing unit would control the output stage units (12a,12b) and therefore the actuator (14,a,14b) that controls the steering device. Regarding claim 17 and 18, Shimizu discloses a steering handle (3) that controls the steering; it would have been obvious to know that the invention

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disclosed by Hommel has to have a steering wheel or steering handle in order to operate as a steering system on a vehicle; however, to further explain the rejection; it is also obvious to say that the steering handle disclosed by Shimizu can be added into the invention disclosed by Hommel, in order to be able to control the steering of the vehicle and therefore the vehicle wheels.

5. Claims 19,20 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asanuma (US 5828972) in view of Shimizu (US 6041884). Asanuma discloses a vehicle steering system comprising: a first and second torque control elements (Fig 2), a first set of electrical units (35,12) for the first torque control element, a second set of electrical units (36,36L,25L,25R), a pair of power supply unit (13a,13b) for distributing the power coming from the battery (31) and directing the power to the electrical units; wherein the first torque control element provides manual torque to the steering wheel (11) and the second torque control element provides torque to the vehicle wheels.

Asanuma further shows in figure 2, that the steering wheel and the vehicle wheels are connected through an electronic controlled system. Regarding claims 28 and 29, one of the torque control elements is related to the steering wheel and its motor and the second one is related to steering the vehicle wheels and their motors (see figure 2).

Asanuma fails to mention a fuse between the power supply and the electrical units.

However; Shimizu discloses a pair of fuses between the power source (30) and electrical units (10,28). It would have been obvious for someone skilled in the art at the time the invention was made to add fuses between the power supply units and the electrical units mentioned by Asanuma, in order to be able to have a feasibly safe

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connection between electrical components {{such as the electrical units and the power supply}}, or in order to have a way of stopping a jump in current from burning electrical components on the electrical circuitry.

6. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Asanuma (US 5828972) in view of Shimizu (US 6041884) as applied to claim 19 above, and further in view of Husain (US 2005/0082108). Asanuma and Shimizu fail to mention the mechanical coupling of the steering handle to the steered wheels in case the electronic controlled system fails. However; Husain discloses a mechanical connection to a steer-by-wire vehicle in case the system fails (fig 1). It would be obvious for someone skilled in the art to have a mechanical connection in a steer-by-wire system, in order to be able to have a safety backup in case the electronic controlled steer-by-wire system fails.

Allowable Subject Matter

7. Claims 22-27 and 30-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARLON A. ARCE whose telephone number is (571)272-1341. The examiner can normally be reached on Mon-Fri 8:00 am to 4:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley Morris can be reached on (571) 272-6651. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Marlon Arce/
MAA

10/6/09

/LESLEY D MORRIS/
Supervisory Patent Examiner, Art Unit 3611